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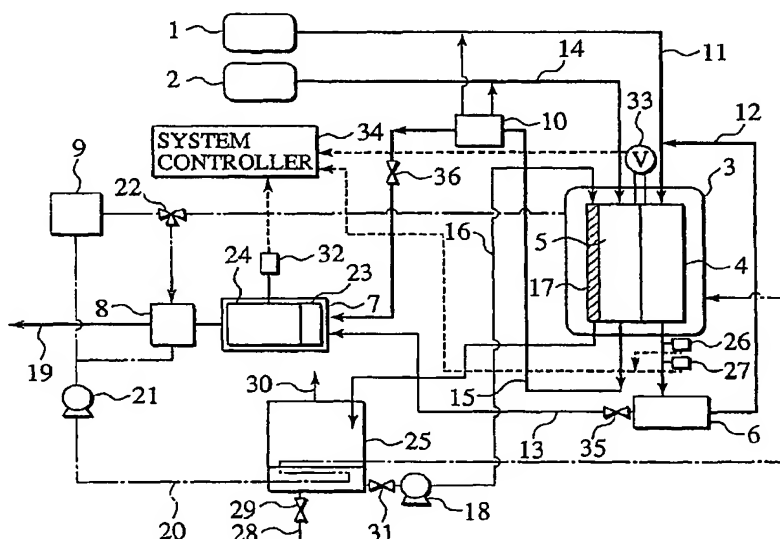
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(54) Title: **FUEL CELL SYSTEM AND FUEL CELL OPERATING METHOD**



(57) **Abstract:** A fuel cell system and related method are disclosed having a catalytic combustor 7 combusting mixed gas between fuel gas, or anode off-gas, and oxidant gas or cathode off-gas, and a system controller 35 operative to perform control such that during at least an ignition period until the catalytic combustor is discriminated to be sufficiently activated from commencement of supplying the mixed gas to the catalytic combustor, a fuel gas concentration of the mixed gas is maintained in a given range (greater than a catalyst activation lower limit and less than flammable lean-limit) whereas after the ignition period has been elapsed, the mixed gas is supplied to the catalytic combustor even if the fuel gas concentration lying at a value deviated from the given range.

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